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EXAMINER

CURTIS III, CHARLES G

ART UNIT

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/572,606	Applicant(s) OGINO ET AL.	
	Examiner CHARLES G. CURTIS III	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/20/2006, 06/20/2007</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Objections

1. **Claim 5** objected to because of the following informalities: “the piezoelectric sensor is bridges” is a grammatical error. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 4, 10 and 17-32** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, the term "in vicinity of" is a relative term which renders the claim indefinite. The term "in vicinity of" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Regarding claim 10, introducing the limitation “a controlling portion” in Line 9 renders to claim indefinite because the same limitation was already introduced in the independent claim (Claim 1) from which the claim depends. Furthermore, the additional limitations that are included in the control portion recited after Line 15 render the claim indefinite, since it is unclear to which control portion they apply; one of ordinary skill in the art could not determine if they apply to the control portion introduced in Claim 1, or to the control portion introduced in Claim 10.

Claims 17-22 recite the limitation “door latch release/set signal sensing means.”

There is insufficient antecedent basis for this limitation in the claims.

Therefore, claims 23-24 depending from claim 22 are also rejected.

Claims 25-30 recite the limitation “door latch release signal sensing means.”

There is insufficient antecedent basis for this limitation in the claims.

Therefore, claims 31-32 depending from claim 30 are also rejected.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. **Claim 1** provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 11/573723. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of Application No. 11/573723 anticipates claim

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1 of the application under examination, as it contains both a piezoelectric sensor integrated into the handle and a controlling portion which detects/receives an output signal from the piezoelectric sensor.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 1 and 6-8** rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication No. 2003/0009855 (Budzynski).

Regarding claim 1, Budzynski discloses a door handle device that is able to open a lock of a door locking means, which is provided to a door with a handle used for an opening/closing operation to lock an opening operation of the door, by an operation of the handle, comprising:

- a piezoelectric sensor (Elements 12 and 13, Figures 3-5) formed of a piezoelectric element fitted to the handle and having a flexibility (Paragraphs [0032]-[0033] and [0036]); and

- a controlling portion for receiving a sensed signal of the piezoelectric sensor generated by a touch on the handle to open the lock of the door locking means (Paragraphs [0037]-[0039]).

Regarding claim 6, Budzynski further discloses that the handle is a door-integrated handle having a handle main body both ends of which are fixed to the door (Paragraph [0030]).

Regarding claim 7, Budzynski further discloses that the piezoelectric sensor is provided in an inside of the handle (Figure 3 and Paragraph [0035]).

Regarding claim 8, Budzynski further discloses that the piezoelectric sensor is provided along an inner surface of the handle (Paragraph [0035]).

8. **Claims 15-19 and 25-27** rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 7,135,787 (Alexandropoulos).

Regarding claim 15, Alexandropoulos discloses a door opening/closing device comprising:

- an outer door handle and an inner door handle gripped in a door opening/closing operation (Element 106 in Figure 1; both handles are not shown explicitly, but inherent to the design, as conventional in the art);
- a door locking means for locking a door not to be opened from a main body on which the door is closed (locking element 112 in Figure 1, Column 2 Lines 48-55);

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- a door latching means for latching the door releasably from the main body (the mechanical linkage assembly 126 and/or the locking element 112, Column 4 Lines 23-30 and Column 6 Lines 29-42);
- a door latch release operating means (handle 106 and locking element 112) for releasing a latch of the door latching means in cooperation with an operation that is applied from an outer side or an inner side to open the door (Column 2 Lines 40-55);
- a door latch release signal sensing means (movement detection element 116) for generating a signal in response to an operation of the door latch release operating means (Column 2 Line 66-Column 3 Line 6); and
- a main body-side controlling means (control element 128, Figure 1) for controlling an open of the door locking means by a sensed signal of the door latch release signal sensing means (Figure 2 and Column 3 Lines 6-13).

Regarding claim 16, Alexandropoulos discloses a door opening/closing device comprising:

- an outer door handle and an inner door handle gripped in a door opening/closing operation (Element 106 in Figure 1; both handles are not shown explicitly, but inherent to the design, as conventional in the art);
- a door locking means for locking a door not to be opened (locking element 112 in Figure 1, Column 2 Lines 48-55);

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- a door latching means for latching the door releasably from the main body (the mechanical linkage assembly 126 and/or the locking element 112, Column 4 Lines 23-30 and Column 6 Lines 29-42);
- a door latch release/set operating means (handle 106 and locking element 112) for releasing and setting a latch of the door latching means in cooperation with an operation that is applied from an outer side or an inner side to open the door (Column 2 Lines 40-55; in addition to locking the door, the locking element can also be actuated to unlock the door as explained in Column 2 Lines 24-30);
- a door latch release/set signal sensing means (movement detection element 116) for generating a signal in response to an operation of the door latch release/set operating means (Column 2 Line 66-Column 3 Line 6); and
- a main body-side controlling means (control element 128, Figure 1) for controlling an open of the door locking means by a sensed signal of the door latch release/set signal sensing means (Figure 2 and Column 3 Lines 6-13).

Regarding claims 17 and 25, Alexandropoulos discloses the devices of claims 15 and 16 as discussed above. Alexandropoulos further discloses that the door latch release signal sensing means or the door latch release/set signal sensing means senses solely a door opening operation or door opening/closing operation applied from an outer side or an inner side (Column 6 Lines 29-42; Alexandropoulos does not

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disclose that the movement detection element detects anything other than a door opening or closing operation).

Regarding claims 18 and 26, Alexandropoulos discloses the devices of claims 15 and 16 as discussed above. Alexandropoulos further discloses that the door latch release signal sensing means or the door latch release/set signal sensing means is provided to a position from which a signal is generated by an action of a common portion that cooperates with a door opening operation applied from an outer side or an inner side by the door latch release operating means or a door opening/closing operation applied from the outer side or the inner side by the door latch release/set operating means, respectively (the mechanical linkage assembly 126, from which the movement detection element detects movement, is common to both the handle and to the rest of the structure to which it connects, as seen in Figure 1).

Regarding claims 19 and 27, Alexandropoulos discloses the devices of claims 15 and 16 as discussed above. Alexandropoulos further discloses that the door latch release signal sensing means or the door latch release/set signal sensing means is provided in an inside of a door (Figure 1).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. **Claims 2-5** rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 2003/0009855 (Budzynski) in view of US Patent No. 7,132,768 (Ieda et al.).

Regarding claim 2, Budzynski discloses the device of claim 1 as discussed above. Budzynski further discloses that the handle has a handle main body and that the piezoelectric sensor is arranged on a surface of the handle main body opposing to the door to sense a vibration generated by a gripping operation of the handle main body (Paragraph [0035]). Budzynski does not disclose that one end side of the handle main body is supported swingably to the door via a supporting shaft and that the other end side is moved in a pulling-out direction by a swing of one end side.

However, the preceding limitation is known in the art of communications. Ieda discloses a human body detecting device wherein one end side of the handle is rotated with respect to the other end side so that the handle is moved in an outward direction away from the door to open the vehicle (Column 3 Lines 9-19). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the device of claim 1 as disclosed in Budzynski with the addition of the handle structure as

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disclosed in Ieda because that type of door handle is a widely used, readily-available component commonly found on automotive vehicle doors.

Regarding claim 3, Budzynski discloses the device of claim 1 as discussed above. Budzynski further discloses that the handle has a handle main body and that the piezoelectric sensor is bridged between the door and the other end side of the handle main body to sense a vibration generated by a pulling operation of the handle main body (Paragraph [0035]). Budzynski does not disclose that one end side of the handle main body is supported swingably to the door via a supporting shaft and that the other end side is moved in a pulling-out direction by a swing of one end side.

However, the preceding limitation is known in the art of communications. Ieda discloses a human body detecting device wherein one end side of the handle is rotated with respect to the other end side so that the handle is moved in an outward direction away from the door to open the vehicle (Column 3 Lines 9-19). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the device of claim 1 as disclosed in Budzynski with the addition of the handle structure as disclosed in Ieda because that type of door handle is a widely used, readily-available component commonly found on automotive vehicle doors.

Regarding claim 4, Budzynski discloses the device of claim 1 as discussed above. Budzynski further discloses that the handle has a handle main body and that the piezoelectric sensor is arranged in vicinity of the supporting shaft of the handle main body to sense a vibration generated by a swing operation of the handle main body (Paragraph [0035]). Budzynski does not disclose that one end side of the handle main

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body is supported swingably to the door via a supporting shaft and that the other end side is moved in a pulling-out direction by a swing of one end side.

However, the preceding limitation is known in the art of communications. Ieda discloses a human body detecting device wherein one end side of the handle is rotated with respect to the other end side so that the handle is moved in an outward direction away from the door to open the vehicle (Column 3 Lines 9-19). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the device of claim 1 as disclosed in Budzynski with the addition of the handle structure as disclosed in Ieda because that type of door handle is a widely used, readily-available component commonly found on automotive vehicle doors.

Regarding claim 5, Budzynski discloses the device of claim 1 as discussed above. Budzynski further discloses that the handle has a handle main body and that the piezoelectric sensor is bridged between the door and one end side of the handle main body to contact the supporting shaft and a top end of the piezoelectric sensor is inserted into an insertion hole formed in the handle main body as a free end (Paragraphs [0035] and [0056]). Budzynski does not disclose that one end side of the handle main body is supported swingably to the door via a supporting shaft and that the other end side is moved in a pulling-out direction by a swing of one end side.

However, the preceding limitation is known in the art of communications. Ieda discloses a human body detecting device wherein one end side of the handle is rotated with respect to the other end side so that the handle is moved in an outward direction away from the door to open the vehicle (Column 3 Lines 9-19). Therefore it would have

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been obvious to one of ordinary skill in the art at the time of the invention to utilize the device of claim 1 as disclosed in Budzynski with the addition of the handle structure as disclosed in Ieda because that type of door handle is a widely used, readily-available component commonly found on automotive vehicle doors.

12. **Claim 9** rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 2003/0009855 (Budzynski) in view of 2002 Ford Explorer Owner's Manual.

Regarding claim 9, Budzynski discloses the device of claim 1 as discussed above. Budzynski does not disclose that the handle is arranged in a position that is hidden behind an outer surface of the door when the door locking means is shut and is exposed when the door locking means is opened.

However, the preceding limitation is known in the art of communications. In the 2002 Ford Explorer Owner's Manual, the auxiliary latch handle located under the front center of the hood (Page 253) is hidden behind the front of the hood until a user pulls the release handle (Page 252) which opens the locking means. Therefore it would have been obvious to one of ordinary skill in the art to utilize the device of Budzynski with the addition of hiding the handle behind a surface of the door until the locking means is opened because the type of hood release mechanism disclosed in the 2002 Ford Explorer Owner's Manual is readily-available, widely used arrangement.

13. **Claim 10** rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 2003/0009855 (Budzynski) in view of US Patent No. 7,135,787 (Alexandropoulos), and further in view of US Patent No. 6,801,134 (Juzswik).

Regarding claim 10, Budzynski discloses the door handle device set forth in claim 1 and discussed above. Budzynski does not disclose that the control portion includes

- a password signal inputting means for receiving a touch detect signal from the piezoelectric sensor to standby an input of a password signal,
- a password signal deciding means for deciding whether or not the password signal input into the password signal inputting means from the piezoelectric sensor and decrypted coincides with a normal signal set previously, and
- a lock open instructing means for instructing the door locking means to open the lock when the password signal coincides with the normal signal.

However, the preceding limitations are known in the art of communications. In the same field of endeavor, Alexandropoulos discloses a self-contained keyless entry system to prevent lockout from restricted-access spaces, wherein a user can manipulate a door handle (the password signal inputting means) of the automobile in accordance with a predetermined sequence, and the handle manipulations are detected as a sequence of signal interruptions that are compared with previously-entered codes (the password(s)) which can actuate a locking element for providing access to the vehicle (Column 6 Lines 18-42). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the device of claim 1 as disclosed in Budzynski with the additional features disclosed in Alexandropoulos as the motivation lies in Alexandropoulos that the signal interruptions can come from any type

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of signal inputting device, including an electrical/electronic signal (Column 6 Lines 42-58), such as the piezoelectric sensor disclosed Budzynski.

The combination of Budzynski in view of Alexandropoulos discloses the system discussed above. The combination does not disclose:

- a vehicle-side transmitter/receiver mounted on a vehicle side;
- a mobile-side transmitter/receiver carried with an operator; and
- a controlling portion for opening a door lock when the mobile-side transmitter receiver receives a password request signal that the vehicle-side transmitter/receiver transmits and then the vehicle-side transmitter/receiver receives a password signal that the mobile-side transmitter/receiver transmits.

However, the preceding limitation is known in the art of communications.

Juzswik discloses a system for remotely controlling a door lock comprising a vehicle-based unit (Element 24 in Figure 1) with a transmitter and receiver, a portable unit (Element 34 in Figure 1) with a transmitter and receiver, and a controlling portion that opens a door lock after receiving a password signal from the portable unit which is sent after a password request signal is sent to it (Column 4 Line 58-Column 5 Line 30).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the device of Budzynski in view of Alexandropoulos with the addition of the system disclosed in Juzswik as the motivation lies in Juzswik that a sensor can be provided in the door handle to initiate the password interrogation sequence and that any stimulus or sensor can be used to initiate the sequence (Column 5 Lines 39-52).

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14. **Claims 11-14** rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication No. 2003/0009855 (Budzynski) in view of US Patent No. 7,135,787 (Alexandropoulos).

Regarding claim 11, Budzynski discloses the door handle device set forth in claim 1 and discussed above. Budzynski does not disclose that the control portion includes

- a password signal inputting means for receiving a touch detect signal from the piezoelectric sensor to standby an input of a password signal,
- a password signal deciding means for deciding whether or not the password signal input into the password signal inputting means from the piezoelectric sensor and decrypted coincides with a normal signal set previously, and
- a lock open instructing means for instructing the door locking means to open the lock when the password signal coincides with the normal signal.

However, the preceding limitations are known in the art of communications. In the same field of endeavor, Alexandropoulos discloses a self-contained keyless entry system to prevent lockout from restricted-access spaces, wherein a user can manipulate a door handle (the password signal inputting means) of the automobile in accordance with a predetermined sequence, and the handle manipulations are detected as a sequence of signal interruptions that are compared with previously-entered codes (the password(s)) which can actuate a locking element for providing access to the vehicle (Column 6 Lines 18-42). Therefore it would have been obvious to one of

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ordinary skill in the art at the time of the invention to utilize the device of claim 1 as disclosed in Budzynski with the additional features disclosed in Alexandropoulos as the motivation lies in Alexandropoulos that the signal interruptions can come from any type of signal inputting device, including an electrical/electronic signal (Column 6 Lines 42-58), such as the piezoelectric sensor disclosed Budzynski.

Regarding claim 12, Budzynski in view of Alexandropoulos discloses the system of claim 11 as discussed above. Alexandropoulos further discloses that the password signal is set based on a peak intensity and a peak interval of a vibration waveform generated by a rapping operation in a predetermined rhythm (the interruptions can come from a *reduction in signal strength, change in frequency, change in phase, and/or any other type of signal attribute*, Column 6 Lines 34-36, and the piezoelectric element disclosed in Budzynski can output an electrical signal in response to a vibration waveform generated by a rapping operation, since it is deformation-sensitive and force-sensitive (Paragraph [0032]).

Regarding claim 13, Budzynski in view of Alexandropoulos discloses the system of claim 11 as discussed above. Alexandropoulos further discloses that the password signal is set based on a peak intensity interval of a pressure change waveform generated by a variation of gripping pressure (the interruptions can come from a *reduction in signal strength, change in frequency, change in phase, and/or any other type of signal attribute*, Column 6 Lines 34-36, and the piezoelectric element disclosed in Budzynski can output an electrical signal in response to a vibration waveform generated by a rapping operation, since it is pressure-sensitive (Paragraph [0032])).

Regarding claim 14, Budzynski in view of Alexandropoulos discloses the system of claim 11 as discussed above. Alexandropoulos further discloses that that system comprises a disturbance sensor for sensing signal components except a signal as a sensed object out of a sensed signal of the piezoelectric sensor (such as an optical signal or sonic signal, Column 6 Lines 45-53).

15. **Claims 20-21 and 28-29** rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 7,135,787 (Alexandropoulos) in view of US Patent Application Publication No. 2003/0009855 (Budzynski).

Regarding claims 20 and 28, Alexandropoulos discloses the devices of claims 15 and 16 as discussed above. Alexandropoulos does not disclose that the door latch release signal sensing means or the door latch release/set signal sensing means is formed of a piezoelectric element material, and the piezoelectric element material is deformed by an action of the door latch release operating means or the door latch release/set operating means to output an electric signal.

However, the preceding limitation is known in the art of communications. Budzynski discloses a door handle arrangement wherein a piezoelectric element contained within a door handle is deformed by a user manipulating the handle causing the element to output a signal (Paragraphs [0032]-[0033] and [0036]-[0039]). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the devices of claims 15 and 16 as disclosed in Alexandropoulos with the additional features disclosed in Budzynski as the motivation lies in Alexandropoulos that the signal interruptions can come from any type of signal inputting device, including an

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electrical/electronic signal (Column 6 Lines 42-58), such as the piezoelectric sensor disclosed Budzynski.

Regarding claims 21 and 29, Alexandropoulos in view of Budzynski discloses the devices of claims 20 and 28 as discussed above. Budzynski further discloses that a bended portion to which a tension is applied is provided to the piezoelectric element material (Figure 3) and the bended portion is arranged to receive a deformation by an action of the door latch release operating means or the door latch release/set operating means (Paragraph [0035]-[0036]).

16. **Claims 22-24 and 30-32** rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 7,135,787 (Alexandropoulos) in view of US Patent No. 6,801,134 (Juzswik).

Regarding claims 22 and 30, Alexandropoulos discloses the devices of claims 15 and 16. Alexandropoulos does not disclose that the main body-side controlling means includes:

- a main-body transmitting/receiving means,
- a password signal requesting means for receiving a sensed signal of the door latch release signal sensing means or the door latch release/set signal sensing means and then requesting a controlling means carried with a door opening/closing operator to transmit a password requesting signal via the main-body transmitting/receiving means,
- a door opening/closing operator deciding means for deciding whether or not a password signal transmitted from the controlling means carried with

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the door opening/closing operator and decrypted coincides with a normal signal set previously, and

- a lock open controlling means or a lock open/shut controlling means for controlling a open or open/shut of a door locking means when the password signal is normal.

However, the preceding limitation is known in the art of communications.

Juzswik discloses a system for remotely controlling a door lock comprising a vehicle-based unit (Element 24 in Figure 1) with a transmitter and receiver, a portable unit (Element 34 in Figure 1) with a transmitter and receiver, and a controlling portion that opens a door lock after receiving a password signal from the portable unit which is sent after a password request signal is sent to it (Column 4 Line 58-Column 5 Line 30).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the devices of Alexandropoulos with the addition of the system disclosed in Juzswik as the motivation lies in Juzswik that a sensor can be provided in the door handle to initiate the password interrogation sequence and that any stimulus or sensor can be used to initiate the sequence (Column 5 Lines 39-52).

Regarding claims 23 and 31, Alexandropoulos in view of Juzswik disclose the systems of claims 22 and 30 as discussed above. Alexandropoulos further discloses that the systems can be equipped in a vehicle door (Column 2 Lines 61-66).

Regarding claims 24 and 32, Alexandropoulos in view of Juzswik disclose the systems of claims 22 and 30 as discussed above. Alexandropoulos further discloses that the systems can be equipped in a building door (Column 2 Lines 61-66).

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent No. 4,197,524 (Salem) discloses a tap-actuated lock and method of actuating the lock.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES G. CURTIS III whose telephone number is (571)270-7493. The examiner can normally be reached on Monday - Friday 7:30 AM - 4:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis West can be reached on (571)272-7859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/CHARLES G CURTIS III/
Examiner, Art Unit 4172

/Lewis G. West/
Supervisory Patent Examiner, Art Unit 4172